2122



Docket No.: 271889US20

OBLON
SPIVAK
MCCLELLAND
MAIER
&
NEUSTADT
P.C.

ATTORNEYS AT LAW

COMMISSIONER FOR PATENTS ALEXANDRIA, VIRGINIA 22313

RE: Application Serial No.: 10/044,316

Applicants: Marc R. HOUYOUX, et al.

Filing Date: January 11, 2002

For: USER-EXECUTABLE METHOD FOR COMPLEX

MODEL DATA ANALYSIS AND ASSOCIATED

SYSTEM, ...

Group Art Unit: 2122

Examiner: NOT ASSIGNED

SIR:

Attached hereto for filing are the following papers:

GENERAL POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE UNITED STATES PATENT AND TRADEMARK OFFICE CHANGE OF CORRESPONDENCE ADDRESS APPLICATION STATEMENT UNDER 37 CFR 3.73(b) ASSIGNMENTS (COPIES)

Our credit card payment form in the amount of \$0.00 is attached covering any required fees. In the event any variance exists between the amount enclosed and the Patent Office charges for filing the above-noted documents, including any fees required under 37 C.F.R 1.136 for any necessary Extension of Time to make the filing of the attached documents timely, please charge or credit the difference to our Deposit Account No. 15-0030. Further, if these papers are not considered timely filed, then a petition is hereby made under 37 C.F.R. 1.136 for the necessary extension of time. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND, MAIER & NEUSTADT, P.C.

Eckhard H. Kuesters

Registration No. 28,870

Customer Number

22850

(703) 413-3000 (phone) (703) 413-2220 (fax)

I:\ATTY\RAR\POWER OF ATTORNEYS\271889UScvRLTR.DOC

Ronald A. Rudder, Ph.D. Registration No. 45,618

1940 DUKE STREET ■ ALEXANDRIA, VIRGINIA 22314 ■ U.S.A. TELEPHONE: 703-413-3000 ■ FACSIMILE: 703-413-2220 ■ WWW.OBLON.COM

Sest Available Cop



GENERAL POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE UNITED STATES PATENT AND TRADEMARK OFFICE

I hereby appoint:	
☐ Practitioners associated with the Customer Number	22850
as attorney(s) or agent(s) to represent the undersigned before connection with any and all patent applications assigned only to records or assignment documents attached to this form in accords.	to the undersigned according to the USPTO assignment
Assignee Name and Address:	
Research Triangle Institute 3040 Cornwallis Road Research Triangle Park, NC 27709	
A statement under 37 CFR 3.73(b) is attached.	·
	BIGNEE OF RECORD below is authorized to act on behalf of the assignee
Signature Signature	Date: 6/22/05
Name J Scott Merrell	Telephone: 919 541-6501
Title Senior Vice President, Secretary	and Chief Legal Officer

OBLON, SPIVAK McCLELLAND, MAIER & NEUSTADT, P.C. [10/2004]



CHANGE OF CORRESPONDENCE ADDRESS Application

Address to: Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Application Number	10/044,316
Filing Date	January 11, 2002
First Named Inventor	Marc R. HOUYOUX, et al.
Art Unit	2122
Examiner Name	NOT ASSIGNED
Attorney Docket Number	271889US20

Please change the Correspondence Address for the above-identified patent application to:											
	22850										
I am the:											
Applicant/Inventor.											
Assignee of record of the entire interest. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)											
Attorney or agent or record. Registration Number 45,618											
Registered practitioner named in the application transmittal letter in an application without an Executed oath or declaration. See 37 CFR 1.33(a)(1). Registration Number											
Signature Royald C. Rudde											
Typed or Printed Name											
Ronald A. Rudder, Ph.D.											
Date 8/30/05	Telephone 703-412-7033										
NOTE: Signatures of all the inventors or assignees of record of the entire interes forms if more than one signature is required, see below*.	t or their representative(s) are required. Submit multiple										
★Total of 1 forms are submitted.											

I:\ATTY\RAR\POWER OF ATTORNEYS\271889USADDRESS.DOC

AUG 3 1 2005 E

PRADEMINE STATEMENT UNDER 37 CFR 3.73(b)	
Applicant/Patent Owner: Marc R. HOUYOUX, et al.	
	Issue Date: January 11, 2002
USER-EXECUTABLE METHOD FOR COMPLEX MODEL DATA ANAL Entitled: COMPUTER DEVICE, AND COMPUTER SOFTWARE PROGRAM PRO	
Ellined. COMPUTER DEVICE, AND COMPUTER SOFTWARE PROGRAMTING	55001
Research Triangle Institute , a Corporation	
	oration, partnership, government agency, etc.)
States that it is:	
1. ⊠ the assignee of the entire right, title, and interest; or	
2. an assignee of less than the entire right, title and interest.	
The extent (by, percentage) of its ownership interest is%	
in the patent application/patent identified above by virtue of an assignment from the application/patent identified above. A copy of the assignment is attached.	inventor(s) of the patent
The undersigned (whose title is supplied below) is authorized to act on behalf of the	assignee.
Ponder Co Rugde	8-30-65
Signature	Date
Ronald A. Rudder, Ph.D.	703-412-7033
Printed or Typed Name	Telephone Number
45,618	
Registration Number	

I:\ATTY\RAR\POWER OF ATTORNEYS\271889USSTATEMENT.DOC

COPY ONLY NOT FOR RECORDATION

ASSIGNMENT - WORLDWIDE

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, each undersigned inventor has sold and assigned, and by these presents hereby sells and assigns, unto

MCNC 3021 Cornwallis Road Research Triangle Park, North Carolina 27709

its successors and assigns, the entire right, title and interest, so far as concerns the United States and the Territories and Possessions thereof and all foreign countries in and to the invention in "USER-EXECUTABLE METHOD FOR COMPLEX MODEL DATA ANALYSIS AND ASSOCIATED SYSTEM, COMPUTER DEVICE, AND COMPUTER SOFTWARE PROGRAM PRODUCT,"

		•
	executed concurrently herewith	
	executed on	
\boxtimes	Application No. 10/044,316; filed January 11, 2002	
	Application claims priority from Application No. , filed	, all applications listed
	above being hereinafter referred to as the "application(s)";	

as set forth in this United States Patent Application

said application for United States Letters Patent, including all divisional, renewal, substitute, continuation, nonprovisionals, continuation-in-parts, and Convention applications based in whole or in part upon said inventions or upon said applications, and any and all Letters Patent and reissues, reexaminations, and extensions of Letters Patent granted for said inventions or upon said applications and every priority right that is or may be predicated upon or arise from said inventions, said applications, and said Letters Patent; said Assignee being hereby authorized to file patent applications in any or all countries on any or all said inventions in the name of the undersigned or in the name of said Assignee or otherwise as said Assignee may deem advisable, under the International Convention or otherwise; the Commissioner of Patents and Trademarks of the United States of America being hereby authorized to issue or transfer all said Letters Patent to said Assignee in accordance herewith; this assignment being under covenant, not only that full power to make the same is had by the undersigned, but also that such assigned right is not encumbered by any grant, license, or other right theretofore given, and that the undersigned will do all acts reasonably serving to ensure that the said inventions, patent applications and Letters Patent shall be held and enjoyed by said Assignee as fully and entirely as the same could have been held and enjoyed by the undersigned if this assignment had not been made, and particularly to execute and deliver to said Assignee all lawful documents including petitions, specifications, oaths, assignments, invention disclaimers, declarations, and lawful affidavits in form and substance which may be requested by said Assignee, to furnish said Assignee with all

facts relating to said inventions or the history thereof and any and all documents, photographs, models, samples or other physical exhibits which may embody said inventions, and to testify in any proceedings relating to said inventions, patent applications, and/or Letters Patent.

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The undersigned hereby grant(s) an authorized representative of Assignee the power to insert in this Assignment any further identification that may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for recordation of this Assignment.

Date 3/21/02 Marc R. Houyoux
Date Marc R. Houyoux
State of North Carolina
County of Wake
I, <u>Saman tha Mitchell</u> , a Notary Public for said County and State, do hereby certify that Marc R. Houyoux personally appeared before me this day and acknowledged the due execution of the foregoing instrument.
Witness my hand and official seal, this the 215^{+} day of $March$, 2002.
(Official Seal)
My commission expires 1205-05
Date Sousan Karimi
Date Sousan Karimi
State of North Carolina
State of North Caroling County of Wall
I, <u>Omanha</u> <u>Witchell</u> , a Notary Public for said County and State, do hereby certify that Sousan Karimi personally appeared before me this day and acknowledged the due execution of the foregoing instrument.
Witness my hand and official seal, this the $\frac{22^{nd}}{d}$ day of $\frac{March}{d}$, 2002.
(Official Seal)
Notary Public Notary Public

3/22/02 Date	Karen M. Litwin
State of North Carolina	
County of Wake	
I, <u>Canantha Mitchell</u> , a Notary certify that Karen M. Litwin personally appeared execution of the foregoing instrument.	Public for said County and State, do hereby I before me this day and acknowledged the due
Witness my hand and official seal, this the	and day of March, 2002.
(Official Seal)	Sanantha Mitchell
My commission expires 12-05-05	Notary Public

Attorney Docket No. 30540/240840 RTA 2113433v1

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BILL OF SALE AND ASSIGNMENT

THIS BILL OF SALE AND ASSIGNMENT (this "Bill of Sale") is made effective as of January 1, 2003, by MCNC, a North Carolina nonprofit corporation (the "Assignor"), to MCNC Research and Development Institute, a North Carolina nonprofit corporation (the "Assignee").

The Assignee and the Assignor are parties to a Restructuring Agreement, dated as of January 1, 2003 (the "Agreement"), pursuant to which the Assignor has agreed to assign, transfer and convey to the Assignee, and the Assignee has agreed to acquire from the Assignor, the Transferred Assets (as defined below). This Bill of Sale is entered into pursuant to Section 5.2(b)(i) of the Agreement. Capitalized terms used but not defined herein will have the meanings for such terms that are set forth in the Agreement.

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Assignor hereby assigns, transfers and conveys to the Assignee, subject to the terms and conditions set forth in the Agreement and effective as of 12:01 a.m. (Durham, North Carolina time) on the effective date hereof, all of the Assignor's right, title and interest in and to all of the operations and assets of the Assignor, tangible or intangible, relating to the EDG Divisions and all of the operations and assets of the Assignor, tangible or intangible, relating to the Corporate/Administrative Divisions (all of the foregoing, collectively, the "Transferred Assets"), including the following assets of the Assignor, in each case to the extent (and only to the extent) relating to the EDG Divisions and/or the Corporate/Administrative Divisions:

- (a) All machinery, equipment, parts, tools, fixtures, furniture, office equipment, computer hardware, supplies, motor vehicles and other items of tangible personal property, including all of the foregoing listed on <u>Schedule 3.1(a)</u> to the Agreement;
- (b) All trade and other accounts and/or notes receivable, including the benefit of all collateral, security, guaranties and similar undertakings received or held in connection therewith and any claim, remedy or other right related thereto, including all of the foregoing listed on <u>Schedule 3.1(b)</u> to the Agreement;
- (c) All inventories wherever located, including raw materials, goods consigned to vendors or subcontractors, works in process, finished goods, spare parts, goods in transit, products under research and development, demonstration equipment and inventory on consignment, including all of the foregoing listed on <u>Schedule 3.1(c)</u> to the Agreement;
- (d) All real property, buildings, structures and other improvements thereon (including all easements, rights-of-way, water rights, tenements, hereditaments, appurtenances, fixtures and other real property rights pertaining thereto);
- (e) All leases and subleases of real property, together with any options to purchase the underlying property and leasehold improvements thereon, and in each case all other rights, subleases, licenses, permits, deposits and profits appurtenant to or related to such leases and subleases;

- (f) All rights and interests in and to any Contracts, including any rights under equipment or other product warranties from third party vendors or manufacturers, including all of the foregoing listed on Schedule 3.1(f) to the Agreement;
- (g) All Intellectual Property, including all of the foregoing listed on <u>Schedule 3.1 (g)</u> to the Agreement;
- (h) All business, employee and financial records, books, ledgers, files, correspondence, documents, lists, studies and reports, including customer lists, supplier lists and equipment repair, maintenance, service, personnel, payroll, employee benefit, quality control and insurance records, whether written, electronically stored or otherwise recorded;
- (i) All goodwill and all sales, advertising, promotional and marketing information and materials;
- (j) All Permits, including all of the foregoing listed on Schedule 3.1(j) to the Agreement;
- (k) Subject to the terms of Section 6.3 of the Agreement, all rights of the Assignor to causes of action, lawsuits, judgments, claims and demands of any nature and all counterclaims, rights of setoff, rights of indemnification and affirmative defenses to any claims that may be brought against the Assignee by third parties;
- (l) All rights to refunds from customers and suppliers, all prepaid expenses and deposits and all rights to condemnation proceeds; and
- (m) All other properties and assets to the extent the Assignor has any rights thereto or interests therein, whether a present or future interest, an inchoate right or otherwise and whether such properties or assets are tangible or intangible and whether or not of a type falling within any of the categories of assets or properties described above.

Notwithstanding any provision of this Bill of Sale, the Assignor will retain ownership of the Excluded Assets. "Excluded Assets" means all of the operations and assets of the Assignor, other than the Transferred Assets, including all of the operations and assets of the Assignor, tangible or intangible, relating to the Retained Divisions and including all of the following assets of the Assignor:

- (n) All cash and cash equivalents.
- (o) Corporate organizational documents, stock books, stock ledgers, minute books and tax returns.
- (p) The corporate name "MCNC" and any and all registered or unregistered trademarks, service marks and logos relating to or incorporating such name.
- (q) The main external MCNC telephone and fax numbers and the MCNC website (other than the content of any MCNC websites relating to the EDG Divisions and/or the Corporate/Administrative Divisions).

- (r) All rights to causes of action, lawsuits, judgments, claims and demands of any nature and all counterclaims, rights of setoff, rights of indemnification and affirmative defenses to any claims that may be brought against the Assignor by third parties, in each case to the extent (and only to the extent) that they relate to the Excluded Assets or Excluded Liabilities.
 - (s) All rights under any Transaction Document.
- (t) The lease agreement between the Assignor and TUCASI dated as of April 26, 1982 and those assets, if any, listed on <u>Schedule 3.3(g)</u> to the Agreement.

The Assignor agrees to furnish upon request to the Assignee such further information, to execute and deliver to the Assignee such other documents, and to do such other acts and things (including the execution and delivery of such further instruments or documents as may be necessary or convenient to transfer and convey any Transferred Asset to the Assignee), all as the Assignee may reasonably request for the purpose of carrying out the intent of this Bill of Sale.

BY ITS ACCEPTANCE OF THIS BILL OF SALE, THE ASSIGNEE ACKNOWLEDGES AND AGREES THAT THE ASSIGNOR HAS NOT MADE ANY REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, AS TO THE CONDITION OR MERCHANTABILITY OF THE TRANSFERRED ASSETS OR THE FITNESS OF THE TRANSFERRED ASSETS FOR ANY PARTICULAR PURPOSE, IT BEING THE INTENTION AND AGREEMENT OF THE ASSIGNOR AND THE ASSIGNEE THAT THE TRANSFERRED ASSETS ARE BEING ACQUIRED BY THE ASSIGNEE ON AN "AS IS, WHERE IS WITH ALL FAULTS" BASIS IN THEIR PRESENT CONDITION AND THAT ANY WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY AND WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE ARE HEREBY EXPRESSLY DISCLAIMED AND THAT THE ASSIGNEE WILL, AND DOES HEREBY, SUBJECT TO (AND WITHOUT AFFECTING) THE TERMS OF SECTION 6.2 AND ARTICLE VII OF THE AGREEMENT, RELEASE THE ASSIGNOR FROM ANY CLAIM (WHETHER STATUTORY, COMMON LAW OR OTHERWISE) RELATING TO THE CONDITION, MAINTENANCE, OPERATION, PROFITABILITY, MARKETABILITY OR LEGAL COMPLIANCE OF ANY OF THE TRANSFERRED ASSETS; PROVIDED, HOWEVER, THAT THE FOREGOING WILL APPLY BETWEEN THE ASSIGNOR AND THE ASSIGNEE ONLY AND WILL NOT LIMIT ANY RIGHTS UNDER WARRANTIES AND GUARANTIES OF THIRD PARTIES IN RESPECT TO THE TRANSFERRED ASSETS.

This Bill of Sale will be governed by the laws of the State of North Carolina without giving effect to any choice or conflict of law principles of any jurisdiction. This Bill of Sale will be binding upon and inure to the benefit of the Assignor and the Assignee and their respective successors and assigns. This Bill of Sale may be executed in one or more counterparts, each of which will be deemed an original but all of which together will constitute one and the same agreement.

[The next page is the signature page]

[Signature Page to Bill of Sale and Assignment]

The Assignor has executed and delivered this Bill of Sale effective as of the date first above written.

MCNC

By:

David P. Rizzo, President

ACCEPTED AND AGREED TO:

MCNC RESEARCH AND DEVELOPMENT INSTITUTE

By: (blean /) . hole,

William M. Moore, Jr., Chairman

Schedule 3.1(g)

Intellectual Property

See attached

MCNC INTELLECTUAL PROPERTY Schedule 3.1(g)

A. Patents and Pending Applications Assigned to MCNC as Sole Owner.

(Including Expired Patents (those reaching their full term (i.e. 17 years) or where maintenance fees were not paid).

Austrant Itsue Date	් ලක්කිරීම	Decinipion	्रस्टामाञ्ज	डात्तार/क्षेत्रिक्टा
4,576,884	18-Mar-86 Method and	Apparatus for	MCNC	Expired: 23-Mar-94** (Not on KCLH List)
4,667,404	26-May-87	26-May-87 Method of Interconnecting Wiring Planes	MCNC	Expired: 26-May-99**
4,738,761	19-Apr-88	19-Apr-88 Shared Current Loop, Multiple Field Apparatus and Process for Plasma Processing	MCNC	Expired: 19-Apr-00**
4,764,644	16-Aug-88	16-Aug-88 Microelectronics Apparatus	MCNC	Expired: 16-Aug-00**
4,774,630	27-Sep-88	27-Sep-88 Apparatus for Mounting a Semiconductor Chip and Making Electrical Connections Thereto	MCNC	Expired: 02-Oct-96** (Not on KCLH List)
4,816,616	28-Mar-89	28-Mar-89 Structure and Method for Isolated Voltage Referenced Transmission Lines	MCNC	Expired: 28-Mar-93**
4,821,224	11-Apr-89	11-Apr-89 Method and Apparatus for Processing Multi-Dimensional Data to Obtain a Fourier Transform	MCNC	Expired: 11-Apr-93** (Not on KCLH List)
4,826,754	02-May-89 Method for Integrated C	Method for Anisotropically Hardening a Protective Coating for Integrated Circuit Manufacture	MCNC	Expired: 02-May-93** (Not on KCLH List)
4,896,059	23-Jan-90	23-Jan-90 Circuit to Perform Variable Threshold Logic	MCNC	Expired: 23-Jan-94** (Not on KCLH List)
4,921,157	01-May-90	01-May-90 Fluxless Soldering Process	MCNC	Expires: 15-Mar-09
4,950,623	21-Aug-90	21-Aug-90 Method of Building Solder Bumps	MCNC	Expired: 21-Aug-98** (Not on KCLH List)

z Sztusinőlesi	Expired: 22-Mar-95** (Not on KCLH List)			Expired: 16-Aug-95** (Not on KCLH List)		C Expired: 27-Aug-95** (Not on KCLH List)	C Expired: 12-Nov-99**	ŕ	C Expired: 23-Jun-00**	C Expired: 11-Sep-96** (Not on KCLH List)	•	C Expired: 12-Jan-01 **
AKthate	MCNC	MCNC	MCNC	MCNC	MCNC	MCNC	MCNC	MCNC	MCNC	MCNC	MCNC	MCNC
ar it.	19-Mar-91 Self-Aligned Salicide Process for Forming Semiconductor Devices and Devices Formed Thereby	Electrostatic Handling Device for a Wafer	Method for Selectively Depositing Single Elemental Semiconductor Material on Substrates, Reacting Vapor Phase Reducible Compound With Reducing Agent		Magnetron Method and Apparatus for Producing High Density Ionic Gas Discharge; Remote Plasma Source, Transportation of Plasma to Reaction Chamber, Semiconductor Treatment		Method for Anisotropically Hardening a Protective Coating for Integrated Circuit Manufacture; With Well-Defined Edges, Photoresists		12-May-92 Method for Turning Fastener Heads Having Deformed Head Surfaces Surfaces	Method and Apparatus for Reducing Particulate Contamination in Processing Chambers		Electroluminescent Display With Space Charge Removal
tissuit Date	19-Mar-91	19-Mar-91	06-Aug-91	13-Aug-91	03-Sep-91	24-Sep-91	12-Nov-91	24-Mar-92	23-Jun-92	08-Sep-92	15-Sep-92	12-Jan-93
ioSspacence insulsione	5,001,082	5,001,594	5,037,775	5,039,625	5,045,166	5,051,786	5,064,748	5,098,494	5,123,310	5,145,303	5,147,520	5,179,316

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AUSIPATENT No	्रा <mark>ड्डाल्डा</mark>)कारः नि	் ரி	Aksilülire	Statutinotes
a	13-Apr-93	Alternating Cyclic Pressure Modulation Process for Selective	MCNC	Expired: 13-Apr-01 **
		Area Deposition; Creating a Vapor Phase Chemical Equilibrium System Capable of Deposition and Etching the Material		
2000		Deposited T. T. J.F.L. W. L. J. M. L. J. L.	ONOM	
7,200,257	21-Apr-93	Microelectromechanical Iransqueer and Fabrication Method	MCINC	Expires: 2/-Nov-10
5,237,434	17-Aug-93	17-Aug-93 Microelectronic Module Having Optical and Electrical Interconnects	MCNC	Expires: 05-Nov-11
5,290,400	01-Mar-94	Fabrication Method for Microelectromechanical Transducer	MCNC	Expires: 01-Mar-11
5,407,121	18-Apr-95	18-Apr-95 Fluxless Soldering of Copper	MCNC	Expires: 19-Nov-13
5,412,537	02-May-95	02-May-95 Electrical Connector Including Variably Spaced Connector	MCNC	To Expire Per Client
		Contacts		Instructions 16-Aug-02
5,434,464	18-Jul-95	18-Jul-95 Unidirectional Supporting Structure for Microelectromechanical Transducers	MCNC	Expires: 23-May-14
5,459,013	17-Oct-95	Image Reversal Method for Repairing Defective Areas on Microelectronic Substrates	MCNC	Expired: 17-Oct-99**
5,499,754	19-Mar-96	Fluxless Soldering Sample Pretreating System	MCNC	Expires: 19-Nov-13
5,536,959	16-Jul-96	Self-Aligned Charge Screen (SACS) Field Effect Transistors and Methods	MCNC	Expired: 16-Jul-00**
5,615,825	01-Apr-97	Fluorinated Fluxless Soldering	MCNC	Expires: 12-May-15
5,740,258	14-Apr-98	14-Apr-98 Active Noise Supressors and Methods for use in the Ear Canal	MCNC	Expires: 05-Jun-15
5,990,472	23-Nov-99	23-Nov-99 Microelectronic Radiation Detectors for Detecting and Emitting Radiation Signals	MCNC	Expires: 29-Sep-17
5,992,729	30-Nov-99	30-Nov-99 Tacking Processes and Systems for Soldering	MCNC	Expires: 02-Oct-16
6,013,381	11-Jan-00	Fluorinated Fluxless Soldering	MCNC	Expires: 12-May-15
6,025,767	15-Feb-00	15-Feb-00 Encapsulated Micro-Relay Modules and Methods of Fabricating	MCNC	Expires: 05-Aug-16
6,057,520	02-May-00	02-May-00 Arc Resistant High Voltage Micromachined Electrostatic	MCNC	Expires: 30-Jun-19
6,137,623	24-Oct-00	24-Oct-00 Modulatable Reflectors and Methods for Using Same	MCNC	Expires: 17-Mar-18

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. Seruk/Note:	Expires: 20-Mar-15	Expires: 30-Jun-19	Expires: 16-Apr-02	Expires: 27-May-19	Expires: 23-Nov-19	Expires: 15-Dec-19	Expires: 23-Oct-20		Expires: 25-Apr-20	Expires: 30-Oct-20		Expires: 27-Jul-20	Expires: 25-Apr-20	Expires: 01-Sep-20	Expires: 07-Jan-22
Axsfjærles	MCNC	MCNC	MCNC	MCNC	MCNC	MCNC	MCNC		MCNC	MCNC		MCNC	MCNC	MCNC	MCNC
(Ospańciny) ikinejdine: ".: Desadpildi Tolo	24-Mar-02 Solder Bump Fabrication Methods and Structures Including a Titanium Barrier Layer	24-Oct-00 High Voltage Micromachined Electrostatic Switch	15-May-01 Methods for Modulating a Radiation Signal	22-May-01 Micromachined Electrostatic Actuator with Air Gap	28-May-02 Electrostatically Actuated Electromagnetic Radiation Shutter	21-May-02 Close-Loop Cold Cathode Current Regulator		Associated Fabrication Methods	15-Apr-02 Electrostatically Controlled Variable Capacitor	18-Mar-02 Miniature Electrical Relays Using a Piezoelectric Thin Film as	an Actuating Element	24-Sep-02 Microelectromechanical Elevating Structures	10-Dec-02 Closed-Loop Cold Cathode Current Regulator	26-Nov-02 Distributed MEMS Electrostatic Pumping Devices	18-Feb-03 Image Projection Device and Associated Method
iksiidiDer	24-Mar-0.	24-Oct-0(15-May-0	22-May-0	28-May-0	21-May-0	23-Apr-0		15-Apr-0	18-Mar-0		24-Sep-0	10-Dec-0	26-Nov-0	18-Feb-0
AUSAPArent La No	6,222,279*	6,229,683	6,233,088	6,236,491	6,359,374	6,373,682	6,377,438		6,392,355	6,396,620		6,456,420	6,492,781	6,485,273	6,520,649

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B. Pending U.S. Applications Assigned to MCNC as Sole Owner.

Striffits	Allowed 12/4/02; Issue Fec Due 3/4/03		to 8/29/02 Final Rejection Filed 1/29/03; Application pending.							Application pending.		Application pending.			Issue Fee/Publication Fee Pd. 1/29/03; Awaiting Issue Notification	Application pending		Application pending			Application pending.		Application pending.	Application pending.
Assignee	MCNC	MCNC		MCNC	MCNC	MCNC		MCNIC		MCNC	MCNC	MCNC			MCNC	MCNC		MCNC	MCNC	:	MCNC		MCNC	MCNC
WSAApide en Septialingsde en Septialingsde en Septialingsde en en Septialingsde en e Septialingsde en	09/570,628 15-May-00 Method for Fabricating a Microelectromechanical Bearing	Microelectromechanical Flexible Membrane	Electrostatic varve Device and Related Faorication Methods	Scanning Apparatus and Associated Methods	09/726,155 29-Nov-00 Gigabyte Memory Module System	09/826,548 04-Apr-01 Tunable Microwave Component Using Composite	Dielectrics with Both Ferroelectric and Ferromagnetic	Micromachined Channer Device for Infrared Detactors			Intrusion Tolerant Server System	User-Executabl	Analysis and Associated System, Computer Device, and	Computer Software Program Product	High Sensitivity Polarized Light Discriminator Device	Miniature Electrical Relays Using a Piezoelectric Thin	Film as an Actuating Element and Methods of	06-May-02 Overdrive Structure for Flexible Electrostatic Switch	10/160,992 31-May-02 Eucentric Goniometer Microscope Device for Optical	Measurements	Intrusion Tolerant Communication Networks and	Associated Methods	Multi-Layer Flexible Circuit with Embedded Optic	28-Jun-02 Tunneling Transistor
मिन्द्रिकार	15-May-00	14-Sep-00		12-Oct-00	29-Nov-00	04-Apr-01		13-Apr-01	10	09/842,834 26-Apr-01	11-Jun-01	11-Jan-02			23-Oct-01	16-Jan-02		06-May-02	31-May-02	•	11-Jun-02		12-Jun-02	
OSTADIOS Serial No	09/570,628	166,199/60		755,689/60	09/726,155	09/826,548		09/834 825	00/047 074	09/842,834	09/878,824	10/044,316			10/045,356	10/053,439		10/139.527	10/160,992		10/166,921		10/170,714	10/185,338

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10/184,345	27-Jun-02	0/184,345 27-Jun-02 Electrostatic Color Display	MCNC	Application pending.
10/227,089	23-Aug-02	10/227,089 23-Aug-02 Through-Via Vertical Interconnects, Through-Via Heat	MCNC	Application pending.
		Sinks and Associated Fabrication Methods		
10/268,424	10-Oct-02	10/268,424 10-Oct-02 Optical-Inclusive dWDM Local Area Network	MCNC	MCNC Application pending.
10/334,985	31-Dec-02	10/334,985 31-Dec-02 Design for Dielectric and Metallic Plurality of Elements	MCNC	Application pending

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. Patents and Applications Jointly Owned by MCNC

Notes	Expires: 01-Sep-04	Expired: 30-Jan-94	Expired: 19-May-00	Expires 25-Aug-09		Expired: 28-Jun-02	Duke University Expires: 14-Apr-14	Expires: 31-Dec-12	Expires: 10-Jun-14	Expires: 05-Nov-11	Expires: 16-Dec-16		Expires: 30-Nov-18	
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USRRatent distrebated as the completion of the Notes of the Control of the Contro	01-Sep-87 Silver Methenamine Staining Method	30-Jan-90 Metallization Process for an Integrated Circuit	19-May-92 Photoresists resistant to Oxygen Plasmas	27-Aug-91 Method and Apparatus for High Precision Weighted Random Pattern	Generation	28-Jun-94 High Performance Integrated Circuit Chip Package	12-Sep-95 Method of Forming Metal-Disilicide Layers and Contacts	26-Dec-95 Pleated Sheet Microelectromechanical Transducer	10-Jun-97 Microelectronic Module Having Optical and Electrical Interconnects	13-Jul-99 Microelectronic Module Having Optical and Electrical Interconnects	26-Sep-00 Fiber Optic Connector Having a Microelectromechanical Positioning	Apparatus and an Associated Fabrication Method	7-Aug-01 Methods of Raising Reflow Temperature of Glass Alloys by Thermal	Treatment in Steam, and Microelectronic Structures Formed Thereby
ussuelDate	01-Sep-87	30-Jan-90	19-May-92	27-Aug-91		28-Jun-94	12-Sep-95	26-Dec-95	10-Jun-97	13-Jul-99	26-Sep-00		7-Aug-01	
USPatenti No.	4,690,901*	4,897,287	5,114,827	5,043,988		5,325,265	5,449,642*	5,479,061	5,638,469	5,923,796	6,124,663*		6,271,150*	

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EXECUTION COPY

PATENT ASSIGNMENT

THIS PATENT ASSIGNMENT (this "Assignment"), dated as of the 11th day of March, 2005, is made by and between MCNC RESEARCH & DEVELOPMENT INSTITUTE, a North Carolina nonprofit corporation ("Seller"), to RESEARCH TRIANGLE INSTITUTE, a North Carolina nonprofit corporation ("Buyer").

Statement of Purpose

Seller and Buyer are parties to that certain Asset Purchase Agreement, dated as of February 8, 2005, (the "Purchase Agreement") providing, among other things, for the assignment by Seller to Buyer of all of Seller's right, title and interest in and to the Intellectual Property Assets (as such term is defined in the Purchase Agreement). The parties hereto desire to provide for the assignment of such right, title and interest in and to certain patents in accordance with the terms of the Purchase Agreement.

Now, THEREFORE, in consideration of the premises and other good and valuable consideration, the parties intending to be legally bound agree as follows:

- 1. Patent Ownership. Seller represents that it is the owner of the patents and patent applications set forth on Schedule 1 hereto and hereby made a part hereof (the "Patent Rights"):
- 2. Patent Assignment. Seller does hereby sell, assign and transfer unto Buyer, its successors, assigns and legal representatives, the entire right, title and interest in all the Patent Rights, the inventions described and claimed therein, including any applications or provisional applications now or hereafter filed in any jurisdiction worldwide, including any reissues, divisionals, continuations, continuations-in-part, extensions or foreign counterparts of the Patent Rights heretofore or hereafter granted, any and all letters patent which may be granted therefor, together with all claims for damages in any applicable jurisdiction by reason of past, present, or future infringement thereof, with the right to sue for, and collect the same for its own use and enjoyment, the same to be held and enjoyed by Buyer for its own use, and the use of Buyer's successors and assigns, as fully and entirely as the same would have been held and enjoyed by Seller if this Assignment had not been made. At Buyer's request and expense, Seller agrees further to cooperate with Buyer in any suit or process for dispute resolution, based on claims the Patent Rights assigned herein have been infringed.
- 3. <u>Cooperation</u>. At Buyer's request and expense, Seller covenants that it will cooperate with Buyer in perfecting any interests in the Patent Rights. To carry out in good faith the intent and purpose of this Assignment and to facilitate prosecution and enforcement of the Patent Rights in all countries in the world, the Seller will execute, and shall use its best efforts to have inventors execute when needed, all appropriate oaths, declarations, assignments, powers of attorney and other documents.

[Signatures appear on the following page.]



IN WITNESS WHEREOF, Seller has caused this PATENT ASSIGNMENT to be executed and delivered by its duly authorized representative as of the date first set forth above.

MCNC RESEARCH & DEVELOPMENT INSTITUTE

Ву:

Name: John W. Cambier

Title: Treasurer

County of Durham State of North Carolina

On this 11th day of March, 2005, personally appeared before me, John W. Cambier, to me known and known to me to be the person aforesaid, who duly acknowledged the signing of the foregoing instrument to be his voluntary act and deed, and as Treasurer (title) of MCNC Research & Development Institute did execute the same for the uses and purposes therein set forth.

(Seal)

Notary Public

SCHEDULE 1

Patent Rights

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3/11/2005

Patent Assignment - Schedule 1 MCNC-RDI ACTIVE U.S. CASES

	MOLECULARIO CONTRACTOR	COMMUNICATION OF STEM WITH ADAPTIVE CHANNEL CORRECTION	MEMS ELECTROSTATICALLY ACTUATED OPTICAL DISPLAY DEVICE AND ASSUCIATED ARRAYS	INTRUSION TOLERANT SERVER SYSTEM	SCANNING APPARATUS AND ASSOCIATED METHOD	LOW POWER TUNNELING METAL-OXIDE SEMICONDUCTOR (MOS) DEVICE	THREE DIMENSIONAL MULTIMODE AND OPTICAL COUPLING DEVICE	IMPEDANCE CONTROL DEVICES FOR USE IN THE TRANSITION REGIONS OF	ELECTROMAGNETIC AND OPTICAL CIRCUITAT AND METHODS FOR USING THE SAME	VISUAL DISPLAY WITH INCREASED FIELD OF VIEW	FLEXIBLE OPTOELECTRONIC CIRCUIT AND ASSOCIATED METHOD	SAMPLE ANALYSIS DEVICE HAVING A EUCENTRIC GONIOMETER AND ASSOCIATED METHOD	USER-EXECUTABLE METHOD FOR COMPLEX MODEL DATA ANALYSIS AND ASSOCIATED SYSTEM, COMPUTER DEVICE, AND COMPUTER SOFTWARE PROGRAM PRODUCT	ELECTROMAGNETIC RADIATION DETECTORS HAVING A MICROELECTROMECHANICAL SHUTTER DEVICE	METHOD AND APPARATUS FOR HIGH PRECISION WEIGHTED RANDOM PATTERN GENERATION	FLUXLESS SOLDERING PROCESS	INTRUSION TOLERANT COMMUNICATION NETWORKS AND ASSOCIATED METHODS	THROUGH-VIA VERTICAL INTERCONNECTS, THROUGH-VIA HEAT SINKS AND ASSOCIATED FABRICATION METHODS	OPTICAL-INCLUSIVE DWDM LOCAL AREA NETWORK	MINIATURE ELECTRICAL RELAYS USING A PIEZOÈLECTRIC THIN FILM AS AN ACTUATING PIEMENT	MICROELECTROMECHANICAL ELEVATING STRUCTURES	CLOSED-LOOP COLD CATHODE CURRENT REGULATOR	COCCEDITION OF THE PROPERTY OF THE PROPERTY OF AND ASSOCIATED	HYBRID MICKOELECT ROMECHANICAL STSTEM TOTABLE OF ACTION AND ACCOUNTS. FABRICATION METHODS	ELECTROMAGNETIC RADIATION DETECTORS HAVING A MICROELECTROMECHANICAL SHUTTER DEVICE	IMAGE PROJECTION DEVICE AND ASSOCIATED METHOD	HIGH SENSITIVITY POLARIZED-LIGHT DISCRIMINATOR DEVICE	CLOSED-LOOP COLD CATHODE CURRENT REGULATOR	UNIDIRECTIONAL SUPPORTING STRUCTURE FOR MICROELECTROMECHANICAL TRANSDUCERS	THIN FILM FERROELECTRIC FLAT PANEL DISPLAY DEVICES, AND METHODS FOR OPERATING AND FARRICATING SAME	FLUXLESS SOLDERING OF COPPER	ACTIVE NOISE SUPPRESSORS AND METHODS FOR USE IN THE EAR CANAL	TUNABLE MICROWAVE COMPONENTS UTILIZING FERROELECTRONIC AND FERROMAGNE 11C COMPOSITE DIELECTRICS AND METHODS FOR MAKING SAME	ELECTROSTATICALLY CONTROLLED VARIABLE CAPACITOR	
	01810	Pending	Published	Published	Granted	9/9/2003 Granted	Published	Published		Pending	4 Granted	Published	Published	Published	8/27/1991 Granted	5/1/1990 · Granted	Published	Published	Pending	3/19/2002 Granted	9/24/2002 Granted	Si712002 Granted	College St	4/23/2002 Granted	7/1/2003 Granted	2/18/2003 Granted	4/8/2003 Granted	12/10/2002 Granted	7/18/1995 Granted	Granted	4/18/1995 Granted	4/14/1998 Granted	7/15/2003 Granted	4/16/2002 Granted	
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	eseni bulli.	5/12/2003	6/27/2002	6/11/2001	10/12/2000 6680788	8/28/2002 6617643	12/31/2002	12/17/2002		5/13/2003	6/12/2002	5/31/2002	1/11/2002	5/29/2003	8/25/1989	3/15/1988	6/11/2002	8/23/2002	10/10/2002	11/23/1999	712512001	475,700	D02/C2/6	10/23/200	4/13/200	177200	10/23/200	2/14/2002	5/23/1894	4/15/1994	11/19/196	8/5/1995	4/4/200	12/15/198	•
- 1	コ	10/435,047	10/184,345	09/878.824	09/689,557	10/185,338	10/334,985	10/321,348		10/437,091	10/170,714	10/160,992	10/044,316	10/447,620	07/398,772	07/324,247	10/186,921	10/227,089	10/268,424	09/448,080	00/E3E 735	001050,120	09/55/,533	09/694.835	09/834,825	10/041,861	10/045,356	10/078.186	08/247.562	08/228,116	08/155.020	08/461,001	09/826,548	09/464,010	
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3/11/2005

Patent Assignment - Schedule I MCNC-RDI ACTIVE U.S. CASES

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TI(I.e.	ELECTROSTATICALLY ACTUATED ELECTROMAGNETIC RADIATOR SHUTTER	MICROMACHINED ELECTROSTATIC ACTUATOR WITH AIR GAP	IMODULATABLE REFLECTORS AND METHODS FOR USING SAME	MICROELECTROMECHANICAL FLEXIBLE MEMBRANE ELECTROSTATIC VALVE DEVICE AND RELATED FABRICATION METHODS	MODULATABLE REFLECTORS AND METHODS FOR USING SAME	PLEATED SHEET MICROELECTROMECHANICAL TRANSDUCER	MICROELECTRONIC MODULE HAVING OPTICAL AND ELECTRICAL INTERCONNECTS	FLUORINATED FLUXLESS SOLDERING	FLUORINATED FLUXLESS SOLDERING	FABRICATION METHOD FOR MICROELECTROMECHANICAL TRANSDUCER	MICROELECTROMECHANICAL TRANSDUCER AND FABRICATION METHOD	ENCAPSULATED MICRO-RELAY MODULES AND METHODS OF FABRICATING SAME	TACKING PROCESSES AND SYSTEMS FOR SOLDERING	HIGH VOLTAGE MICROMACHINED ELECTROSTATIC SWITCH	DISTRIBUTED MEMS ELECTROSTATIC PUMPING DEVICES	ARC RESISTANT HIGH VOLTAGE MICROMACHINED ELECTROSTATIC SWITCH	MICROELECTRONIC RADIATION DETECTORS FOR DETECTING AND EMITTING RADIATION SIGNALS	OVERDRIVE STRUCTURES FOR FLEXIBLE ELECTROSTATIC SWITCH	MINIATURE ELECTRICAL RELAYS USING A PIEZOELECTRIC THIN FILM AS AN ACTUATING ELEMENT	THROUGH-VIA VERTICAL INTERCONNECTS, THROUGH-VIA HEAT SINKS AND ASSOCIATED FABRICATION METHODS	HIGHER OPERATING VOLTAGES FOR FLEXIBLE FILM ACTUATORS	FLOW CONTROL FOR HIGHER OPERATING PRESSURES	IMPROVED RELEASING STRUCTURES	ELECTROSTATIC VALVE WITH NON-WETTING LAYER	STRONG AND FLEXIBLE VALVE CLOSING FOR FLEXIBLE ELECTROSTATIC FILM ACTUATOR	OPTICAL BURST SWITCH LOCAL AREA NETWORK COMPONENT ARCHITECTURE	THREE DIMENSIONAL MULTIMODE AND OPTICAL COUPLING DEVICE	UNIFIED ARCHITECHTURE FOR IMPLEMENTING JIT, JET & HORIZON
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APLICATIONS STATUS REPORT

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MODULATABLE REFLECTORS AND METHODS FOR USING SAME
MICROMACHINED ELECTROSTATIC ACTUATOR WITH AIR GAP
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MICROMACHINED ELECTROSTATIC ACTUATOR WITH AIR GAP
MICROELECTROMECHANICAL FLEXIBLE MEMBRANE ELECTROSTATIC VALVE DEVICE AND RELATED FABRICATION METHODS
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MICROELECTRONICS APPARATUS AND A METHÖD OF INTERCONNECTING WIRING PLANES
METHOD AND APPARATUS FOR EXPOSING PHOTORESIST BY USING
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THROUGH-WA VERTICAL INTERCONNECTS, THROUGH-WA HEAT SINKS AND ASSOCIATED FABRICATION METHODS

Patent Assignment - Schedule 1

Hent	Matter	Client Matter Client Reference Country	Country	971	Application No Filing Date Patent No. Issue Date Status	Filing-Date	Patent No.	lesue Date	Status
9299	0103	066626 0103 SRT-496 & SRT-560 SG		THROUGH-WA VERTICAL INTERCONNECTS, THROUGH-WIA HEAT SINKS AND ASSOCIATED FABRICATION METHODS	200400515-3 8/23/2002	8/23/2002			Pending
38625	066625 0105	SRT-496 & SRT-560 IN	•	THROUGH-VIA VERTICAL INTERCONNECTS, THROUGH-VIA HEAT SINKS AND ASSOCIATED FABRICATION METHODS	299/DELNP/04 8/23/2002	8/23/2002		, a.	Pending
56825	366825 0106	SRT-496 & SRT-560 KR		THROUGH VIA VERTICAL INTERCONNECTS, THROUGH VIA HEAT SINKS AND ASSOCIATED FABRICATION METHODS	10-04-7002596 8723/2002	8/23/2002		<u>.</u>	Published
066625	7610	SRT-489	WO	ELECTROMAGNETIC RADIATION DETECTORS HAVING A MICROELECTROMECHANICAL SHUTTER DEVICE	US04/16318	. 2/25/2004		ъ.	Published
066625 066625 066625	0139 0141 0143	SRT-512, 553 & 571 SRT-563-PCT SRT-387,428,435	0 W &	VISUAL DISPLAY WITH INCREASED FIELD OF VIEW OPTICAL BURST SWITCH LOCAL AREA NETWORK COMPONENT ARCHITECTURE MICROMACHINED ELECTROSTATIC ACTUATOR WITH AIR GAP	US04/14945 US04/15862 2004-129835	5/13/2004 5/20/2004 4/26/2004		a a , a	Published Published Pending

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